



## Course Programme




### Process Identification (morning)

- **Fundamentals of Process Identification**
- **Understanding Process Dynamics**
- **Identification at Operator Level**
  - Modelling of processes
  - First order plus dead time approximation model
- **Systems identification from relay experiments**
  - PRBS identification

### PID-Based Process Control (afternoon)

- **PID based control for process optimization**
- **Auto-tuning methods for PID design**
- **Frequency response design for PID design**
  - Applying the FRTool
- **Advanced process control methodologies**
  - Model predictive control
  - Event-based control,
  - Plant-wide optimization

## Information

-  Time and Date: 9:00 - 17:00 **29<sup>th</sup> April 2025**
-  Place: **Faculty of Pharmaceutical Sciences**  
Ottergemsesteenweg 460, Ghent, Belgium
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## Course Description

This course addresses the question of how we can keep pharmaceutical processes in **optimal manufacturing** conditions while ensuring versatility, resilience and quality of end product.

In focus are **pharmaceutical control systems** that are sustainable and balance the ecological footprint with ensuring access to high quality products and maintaining profitable supply chains.

This is part of the larger (international) challenge to **ensure sustainable demand and production patterns**, by improving environmental and societal sustainability and increasing the circularity in pharmaceutical production systems.

This course is given by experts from the **Dynamical Systems and Control lab** and will provide interactive learning and real-world applications, allowing participants to directly apply the new knowledge in their own context.

## Target Audience

Professionals, researchers, and PhD students in pharma, engineering, and related fields with no experience or expertise in the topic, or who want a refreshment on the basic principles.

